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A proposed architecture for generic and scalable CDR analytics platform utilizing big data technology (Article)

Elagib, S.B., Hashim, A.-H.A., Olanrewaju, R.F.

Electrical and Computer Engineering, Faculty of Engineering, International Islamic University Malaysia, Kuala Lumpur, Malaysia

Abstract

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Telecom Call Details Record (CDR) data-set is considered a rich source of valuable information that will bring new big revenues to Communication Service providers (CSP) as well as it will empower many out-telco services such as transportation, education, health programs, and business analysis in resource management and planning, decision making, and processes optimization. However, extracting these valuable information from raw CDRs with the classical SQL and BI systems is very costly and has poor performance measures. This is due to the big volume of CDR data-set, the high and growing data rate and the large number of fields it contains. Many CDR analytics systems were built using Big Data technology, to overcome the scalability problem of the centralized computing, but the heterogeneity usage of CDR analytics have not been considered; they were built for specific and predetermined use cases. This paper presents a proposed platform architecture for real, near-real time and batch CDR analysis to provide analytics for heterogeneous applications, through designing a high generic and scalable platform. This paper illustrates the platform design consideration along with how the proposed architecture was built. Moreover, it gives a brief functional description and implementation suggestions for each component in the architecture.

Author keywords

Batch processing Big data CDR Kappa Lambda Real time Stream processing Telecom

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Elagib, S.B.; Electrical and Computer Engineering, Faculty of Engineering, International Islamic University Malaysia, Kuala Lumpur, Malaysia